# Operating Instructions for Pneumatic Couplings

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These instructions must be read thoroughly before installing or operating pneumatic couplings. File instructions for future reference and for ordering of replacement parts.

**Technical Data**

kg : approximate weight of the unit in kilogram

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## Storage

Storage between delivery and putting into operation should be in dry, dust- and vibration-free areas. Inquire the manufacturer as to other storage conditions.

## Corrosion Protection

The standard corrosion protection for spindles, tubular guiding sleeves and the like under the above conditions is effective for max. one year. It is unsuitable for outdoor storage.


The above tag is attached to each new pneumatic coupling when it is shipped.

It is for your protection and should not be removed until the unit has been properly serviced under the instructions of this manual.

The product may only be used for the agreed upon and technically designed use. The product may not be operated with powers, torques or outer loads which exceed the construction design (see technical data and dimension drawing).

## General Instructions

Set-up and putting into operation may only be done by qualified trained personnel.

Qualified personnel are those who, as a result of their training, experience, and instructions as well as their knowledge of the respective norms, regulations, accident prevention regulations and plant regulations, are authorized by those responsible for plant safety to carry out the required activities and in doing so are able to recognize and avoid dangers.

## Assembly

The coupling must be bolted onto a rigid, flat frame. The tapped bores 5/8" Unc are to be used for this purpose.

When doing so, do not subject the housing to stress! Stresses increase the noise level and the housing or bearings may be damaged or destroyed.

Mount and align the cardan shaft in accordance with the manufacturer's regulations. We recommend the use of cardan shafts with a length offset feature.

The hydraulic pump must be connected to the coupling so that it is oil-tight. For this purpose we recommend anaerobic single-pack sealants, e.g. Loctite 573. The hydraulic pump must not exert any axial pressure on the coupling shaft.

The pump shaft is to be lubricated prior to assembly. We recommend Optimol White T. (Can be purchased in the USA from: Optimol Lubricants, Castrol Industrial North America.)

All bolts should be carefully tightened to the recommended torques shown in the following table.

| Size | Tightening torque ( ft-lb) |
|---|---|
| 1/2-13 | 69 - 83 |
| 1/2-20 | 80 - 96 |
| 5/8-11 | 137 - 164 |

**Pneumatic Shifting:**

The pneumatics must be designed so that the side subjected to pressure is continuously under a pressure of 60 to 120 psi.

The couplings must not be switched under load; this operation may only be performed at standstill. Any contravention of this will result in damage to the geared coupling and no claims under the guarantee will be accepted.

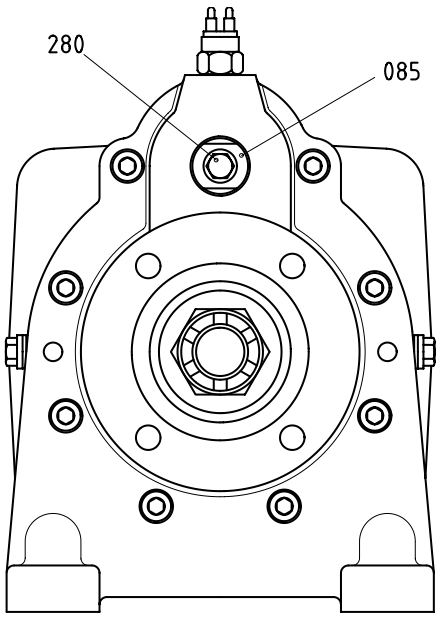
**Connecting the pneumatic:**

SAE O-ring, port straight, thread size 7/16-20, sealed with plastic plugs for transport.

**Type 8031.07:**

The coupling has an emergency cut-out feature. Do not work on the coupling while the motor is running!

For this: Undo plug item 280 with spanner size 13 mm. While doing so, secure item 85 with an open-end spanner size 24 mm against turning. Then move the piston with a tool, e.g. screwdriver. Do not use a hammer! Install sealing plugs again and secure part 85 against turning while doing so. It is only possible to switch on again with compressed air.



## Lubricant

The pneumatic couplings are supplied without oil. Mineral gear oil CLP 220 DIN 51517 has to be used.
See Table Lubricants
This grade is suitable for normal operation conditions at an ambient temperature of 25° F to 95 °F. Consult the manufacturer in the event of special operating and application conditions.

## Oil Quantity:

See nameplate or technical data.

## Putting into operation

Before putting into operation, including test runs, ensure that no dangers exist from moving and rotating parts (i.e. spindles, couplings and the like). That means that the required contact safety features must be in place or dangerous contact must be ruled out.

Before putting into operation insure that lubrication is filled in the prescribed quantity. Oil quantity and oil quality are to be found on the nameplate or operating instructions.

Never operate without a vent filter, otherwise an oil leakage is caused by overpressure in the warming of the drive.

## Lubricants

| Lubricant type | Mineral oil CLP | | Synthetic oil | | | |
|---|---|---|---|---|---|---|
| | DIN 51517, ISO/DP 6743-6 | | **PAO** Polyalfaolefin type oil | | **PGLP** Polyglycol type oil | |
| Kinem. viscosity in $mm^2/s$ at 40 °C cSt at 104 °F | **220** | **100** | **220** | **100** | **220** | **100** |
| Ambient temperature | -5 → 35 °C 25 → 95 °F | -15 → 25 °C 5 → 80 °F | -25 → 80 °C -15 → 175 °F | -35 → 60 °C -30 → 140 °F | -25 → 80 °C -15 → 175 °F | -35 → 60 °C -30 →140 °F |
| ARAL | Degol BG 220 | Degol BG 100 | Degol PAS 220 | - | Degol GS 220 | - |
| BP | Energol GR-XP 220 | Energol GR-XP 100 | Enersyn HTX 220 | - | Enersyn SG-XP 220 | - |
| Castrol | Alpha EP 220 | Alpha EP 100 | - | - | Tribol 800-220 | Tribol 800-100 |
| elf | Reductelf SP 220 | Reductelf SP 100 | Reductelf Synthese 220 | - | Syntherma P 270 | Syntherma P 125 |
| DEA | Falcon CLP 220 | Falcon CLP 150 | Intor HCLP 220 | - | Polydea PGLP 220 | - |
| EXXON | Spartan EP 220 | Spartan EP 100 | Spartan Synthetic EP 220 | - | - | - |
| FUCHS | Renolin EP 200 | Renolin EP 100 | Renolin Unisyn CLP HC 220 | Renolin Unisyn CLP HC 100 | Renolin PG 220 | Renolin PG 100 |
| Mobil | Mobilgear 630 Mobilgear XMP 220 | Mobilgear 627 Mobilgear XMP100 | Mobilgear SHC XMP 220 | Mobilgear SHC XMP 100 | Mobil Glygoyle 30 | Mobil Glygoyle 11 |
| KLÜBER LUBRICATION | Klüberoil GEM 1-220 | Klüberoil GEM 1-100 | Klübersynth EG-4-220 | - | Klübersynth GH 6-220 | Klübersynth GH 6-100 |
| Agip | Agip Blasia 220 | Agip Blasia 100 | Agip Blasia SX 220 | Agip Blasia SX 100 | Agip Blasia S 220 | Agip Blasia S 150 |
| Chevron | Gear Compound EP 220 | Gear Compound EP 100 | Tegra Synthetic Gear Lubricant 220 | - | - | - |
| Shell | Shell Omala Oil 220 | Shell Omala Oil 100 | Shell Omala Oil HD 220 | - | Shell Tivela Oil WB 220 | Shell Tivela Oil WA 150 |
| Optimol | Ultra 220 Optigear BM 220 | Ultra 100 Optigear BM 100 | Synthetic A 220 | Synthetic A 100 | Optiflex A 220 | Optiflex A 100 |

**Maintenance**

**Lubricant change**

The first oil change should be performed after 500 hours of operation. All subsequent changes should be performed after 4000 hours of operation but at the latest after 12 months.

Under no circumstances should different lubricants such as mineral oil, synthetic oil or grease be mixed together. When the type of lubricant is changed (mineral oil, PGLP, PAO), then the coupling must be rinsed with the new lubricant.

At each oil change check all seals and thread joints for leaks and tighten as necessary. Visually check for leaks daily, if possible.

Premature wear of the machine may occur by running dry due to oil loss, water in the drive housing or foreign elements in the lubrication.

When carrying out oil changes, oil fillings, or oil draining make certain that no oil can reach the soil, ground- or surface water or in the sewage.

Long contact with lubricants can cause skin damage. Use skin protection ointment.

After long operation the lubricant and the surface of the drive can reach temperatures which may lead to burns. While working on hot construction parts wear protective clothing i.e.: protective gloves.

Lubrication should be drained as much as possible at operational temperatures to guarantee a complete oil change. Drain Plug see spare part drawing.
With very dirty oil, rinse the drive with new lubricant.

Fill in lubricant in the prescribed quantity. Oil quantity and oil quality are to be found on the nameplate or operating instructions.

All national, local, and plant-specific regulations and requirements concerning accident prevention and environmental protection are to be followed.

To avoid problems in operation prescribed maintenance and inspection measures must be carried out regularly. Variations from normal operation (higher power take-up, temperatures or vibrations, unusual noises or smells, indications from monitors etc.) indicate problems in performance. To avoid problems which could cause serious personal injury and property damage notify the responsible maintenance personnel without delay. In questionable situations turn off and secure the machine.

To avoid damage from overheating, remove grime and dust layer regularly from the coupling surface.

## Conversions and changes

No changes, alterations or conversions on the drive or on components which could impair safety may be made without manufacturer's permission.

Especially protective devices are not to be removed or altered (i.e. cover plates or overload protection).

## Spare parts and repairs

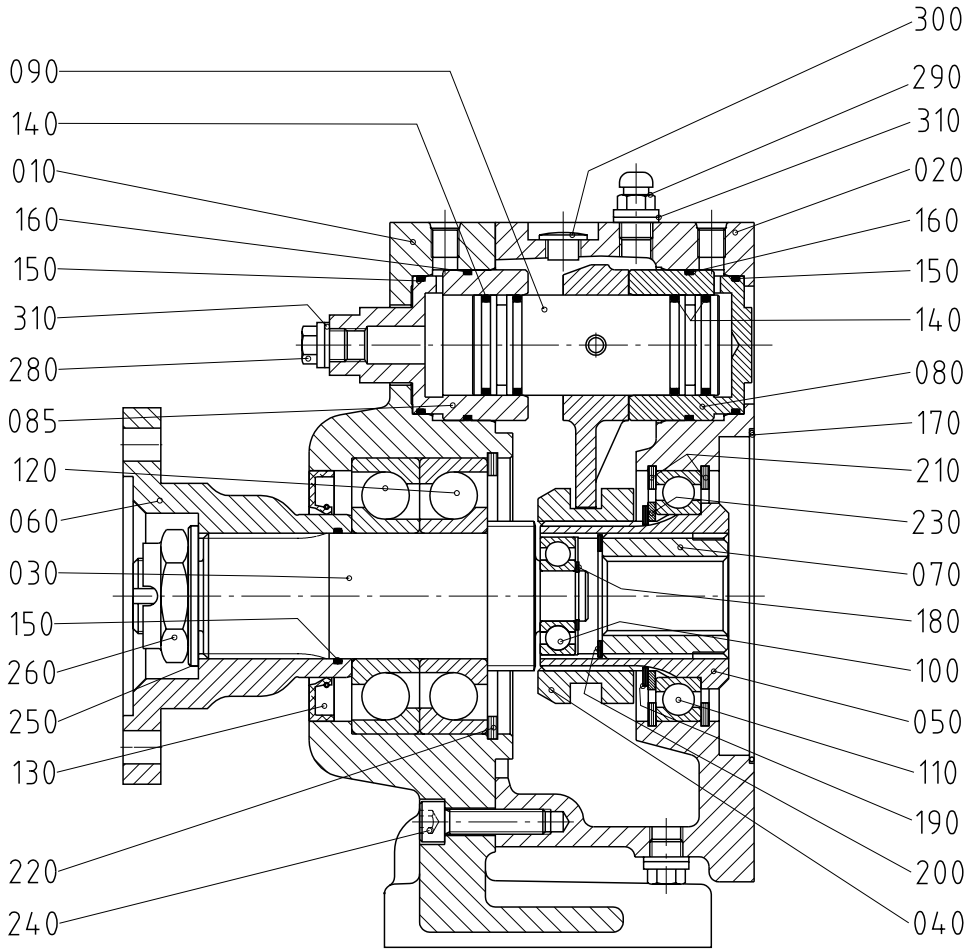
Spare parts must comply with the technical requirements specified by the manufacturer. This is always guaranteed with original spare parts.

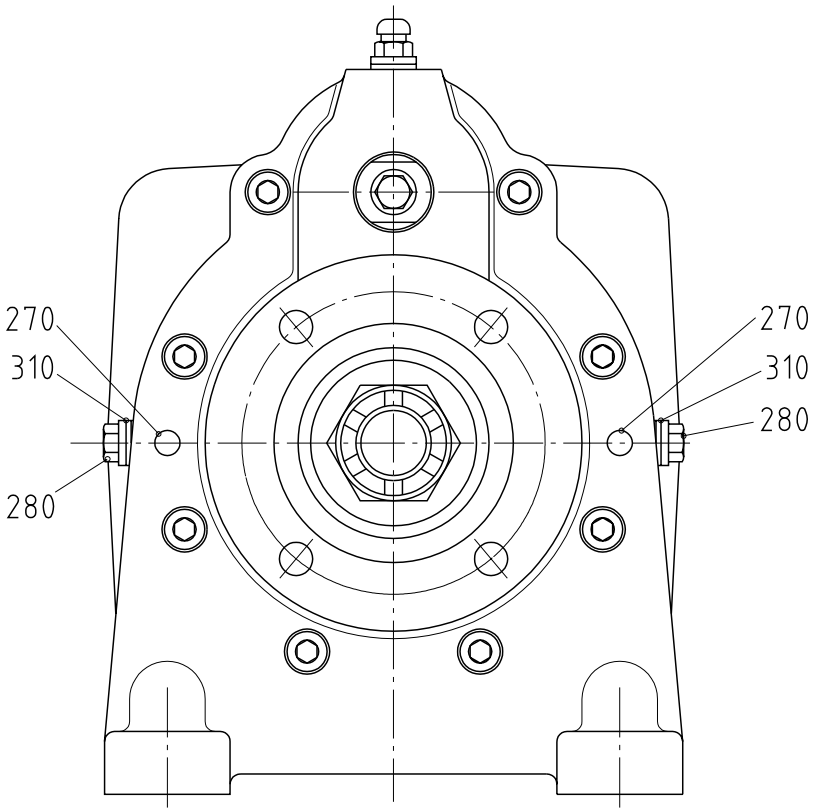
When ordering spare parts, quote the part number of spare part drawing and the spare part designation, the type and the number (found on the name-plate or in technical data). Spare parts lists can be requested from the manufacturer.Repairs and overhauls are carried out by the manufacturer without delay. When carrying out repairs yourself, it must be ensured that working and auxiliary materials and replaced parts are disposed of safely and without damaging the environment.

The applicable national, local and plant-specific regulations and requirements concerning accident prevention and environmental protection are to be observed. The manufacturer accepts no liability for damage caused by improper repair or the use of non-original spare parts.

Prolonged contact with lubricants can cause damage to the skin. Use protective skin ointment. After prolonged operation, the lubricant and the surface of the gearbox can reach temperatures which can burn the skin. Allow the gearbox to cool down before commencing repair work.

# Spare part drawing Type 8031.07



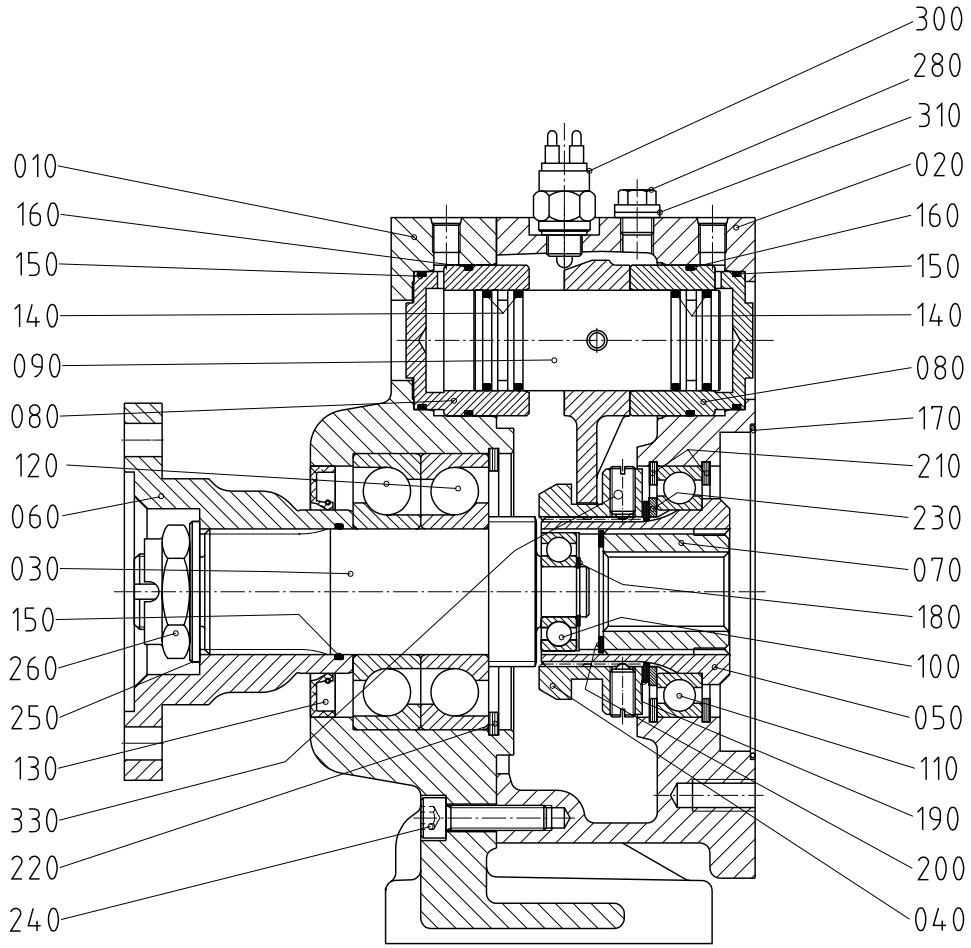



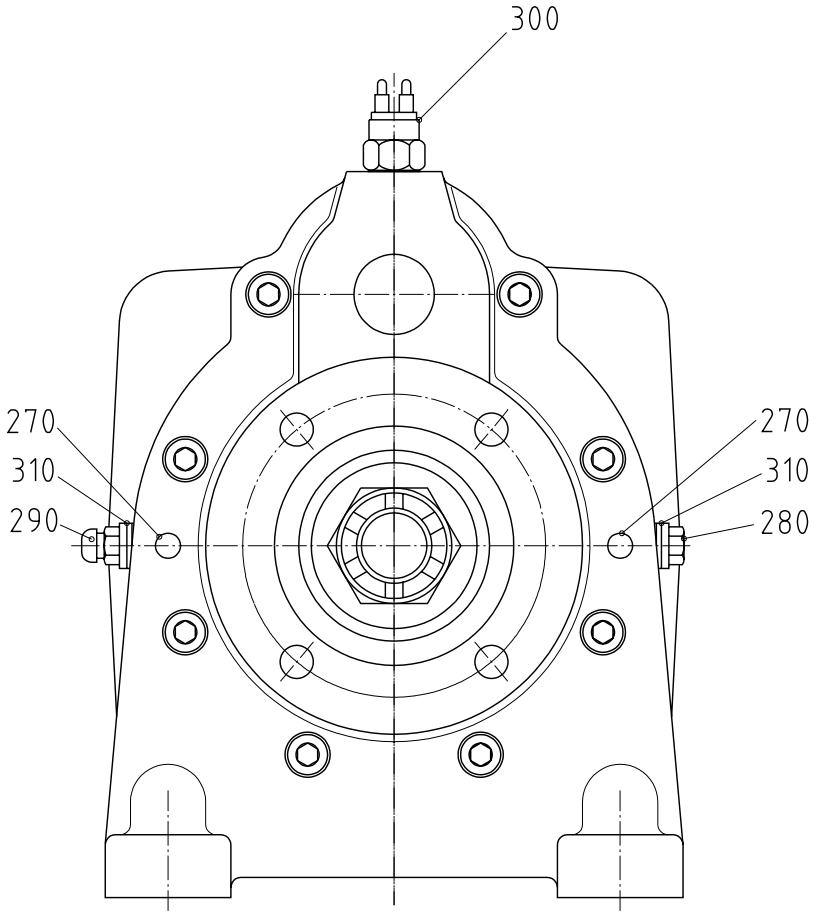
## Parts List Type 8031.07

| Item | Designation |
|---|---|
| 10 | Casing part |
| 20 | Casing part |
| 30 | Tooth shaft |
| 40 | Coupling sleeve |
| 50 | Splined adapter |
| 60 | Flange |
| 70 | Coupling piece |
| 80 | Shift cylinder |
| 85 | Shift cylinder |
| 90 | Shift fork assembly |
| 100 | Ball bearing |
| 110 | Ball bearing |
| 120 | Angular contact ball bearing |
| 130 | Radial shaft seal |
| 140 | O-ring |
| 150 | O-ring |

| Item | Designation |
|---|---|
| 160 | O-ring |
| 170 | O-ring |
| 180 | Circlip |
| 190 | Circlip |
| 200 | Circlip |
| 210 | Circlip |
| 220 | Circlip |
| 230 | Support disc |
| 240 | Socketed head bolt |
| 250 | Disc |
| 260 | Castle nut |
| 270 | Cylindrical dowel |
| 280 | Plug |
| 290 | Vent valve |
| 300 | Screw plug |
| 310 | Sealing ring |

# Spare part drawing Type 8031.08



## Parts List Type 8031.08

| Item | Designation |
|---|---|
| 10 | Casing part |
| 20 | Casing part |
| 30 | Tooth shaft |
| 40 | Coupling sleeve |
| 50 | Splined adapter |
| 60 | Flange |
| 70 | Splined adapter |
| 80 | Shift cylinder |
| 90 | Shift fork assembly |
| 100 | Ball bearing |
| 110 | Ball bearing |
| 120 | Angular contact ball bearing |
| 130 | Radial shaft seal |
| 140 | O-ring |
| 150 | O-ring |
| 160 | O-ring |

| Item | Designation |
|---|---|
| 170 | O-ring |
| 180 | Circlip |
| 190 | Circlip |
| 200 | Circlip |
| 210 | Circlip |
| 220 | Circlip |
| 230 | Support disc |
| 240 | Socketed head bolt |
| 250 | Disc |
| 260 | Castle nut |
| 270 | Cylindrical dowel |
| 280 | Plug |
| 290 | Vent valve |
| 300 | Switch |
| 310 | Sealing ring |
| 330 | Spring-loaded thrust element |